

AMSAT News Service Weekly Bulletins

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SB ALL @ AMSAT \$ANS-217.01
RUDAK-2 TO FLY ON RS-14 IN '90

HR AMSAT NEWS SERVICE BULLETIN 217.01 FROM AMSAT HQ
SILVER SPRING, MD AUGUST 5, 1989
TO ALL RADIO AMATEURS BT

AMSAT-DL RUDAK-2 Transponder Will Fly On RS-14 "Bird" In Mid-1990

During a meeting between AMSAT-DL officials and a representative of the Soviet amateur radio satellite organization known as ORBITA at the AMSAT-UK/RSGB DATASPACE '89 (the combined space and digital communications symposium held last week at the University of Surrey), a tentative agreement was reached to fly a "follow-on" RUDAK transponder aboard RS-14. Many will remember that the RUDAK experiment which flew on AO-13 (RUDAK is a German acronym that stands for: Regenerating Transponder for Digital Amateur Communications) failed to realize its full potential because a temperature sensitive PROM would not allow the RUDAK computer to "boot-up" properly. Despite many intensive efforts to "work-around" this problem, it was not possible to solve this problem and all attempts were eventually abandoned. But characteristic of the indomitable spirit of the RUDAK group within the AMSAT-DL organization, there will soon be a "new and improved" version of this digital experiment known as RUDAK-2. RUDAK-2 will be part of the new Mode B satellite that will be called RS-14. RS-14 will be flying aboard the Soviet's Geological Survey satellite known as "GEOS," (not to be confused with the U.S. weather satellites known as "GOES") in the now familiar "piggy-back" configuration first seen with RS 10/11. There are several important differences between RUDAK-2 and its predecessor on AO-13: the biggest difference is the AX.25 amateur radio packet protocol will be incorporated into the software -- this means that digipeating will be possible and a limited "mailbox" capability will be present. Also, using the Manchester Encoding technique and Binary PSK modulation, the RUDAK-2 transponder mode will be Mode B. The RUDAK-2 transponder will have two separate receive channels for different baud rates: Channel #1 will be for 1200 baud at 435.100 MHz and Channel #2 will be for 4800 baud at 435.150 MHz. The downlink frequency on 2M will be at 145.990 MHz. The nominal RF output of the 2M downlink transmitter will be 2 watts; however, it can be commanded by a groundstation to a higher RF output of 12 watts. The delivery of the RUDAK-2 transponder is scheduled to occur on December 15, 1989 so that it can be integrated into RS-14 for a mid-1990 launch. So despite the disappointment of the RUDAK experiment on AO-13, like the legendary "phoenix" that rises again, so does RUDAK.

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SB ALL @ AMSAT \$ANS-217.02
RS-14 PLANNED TO CARRY MODE B

HR AMSAT NEWS SERVICE BULLETIN 217.02 FROM AMSAT HQ
SILVER SPRING, MD AUGUST 5, 1989
TO ALL RADIO AMATEURS BT

RS-14 Is Currently Under Construction For Planned Launch In Mid-1990

In meetings last week with Leo Labutin (UA3CR) at DATASPACE '89 at the University of Surrey, it was learned that RS-14 is now under construction and is rapidly moving to completion in order to be ready for a mid-1990 launch. Like RS-10/11, this RS "bird" will be flying in a now familiar "piggy-back" configuration aboard another Soviet satellite known as the Geological Survey satellite called GEOS. RS-14 will be placed into a 1000 km circular orbit at

an orbital inclination of 83 degrees. RS-14 satellite will contain a Mode B transponder and the RUDAK-2 transponder along with two beacon transmitters. The planned uplink passband frequency on 70cm will extend from 435.080 to 435.180 MHz. The downlink passband on 2M will start at 145.850 MHz and will extend to 145.950 MHz. As usual, the transponder will be inverting, and the maximum RF output will be 12 watts. The first beacon transmitter will have a downlink on 145.850 and will send telemetry in CW. The second beacon transmitter at 145.990 MHz can either send telemetry or it can be commanded to be the downlink transmitter for the RUDAK-2. With this new RS-14 satellite under construction by the Soviet amateur radio satellite organization ORBITA, this represents their first effort to build a Mode B satellite. Amateurs all over the world will now have another exciting OSCAR to look forward to using next year.

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SB ALL @ AMSAT \$ANS-217.03

ZRO MODE JL TESTS BEGIN SOON!

HR AMSAT NEWS SERVICE BULLETIN 217.03 FROM AMSAT HQ

SILVER SPRING, MD AUGUST 5, 1989

TO ALL RADIO AMATEURS BT

A0-13 ZRO Test Planned For Mode JL On August 12, 1989

On August 12, 1989 at 21:30 UTC the first A0-13 Mode "JL" ZRO Test will begin. Using a downlink frequency of 435.945 MHz Cliff Buttschardt (W6HD0) will send numeric code groups at power levels beginning at beacon level and progressing downward in 3 dB increments to a level 27 dB below beacon level. The rules of the test are identical with those of the many Mode "B" runs which have taken place via OSCAR 13 this year. This "JL" test will be the first opportunity in several years for those holding ZRO certificates to get endorsement stickers for Mode "L" reception reports. Send all reports to Andy MacAllister (WA5ZIB) 14714 Knightsway Dr., Houston, Texas 77083, U.S.A. ZRO brochures are still available from WA5ZIB for an S.A.S.E. with one unit of postage. Those participating in the August 12 "JL" test can also monitor the "B" test scheduled for 20:20 UTC that same day. More tests via both Modes "B" and "JL" will be scheduled for late November and December after A0-13 is once again providing NADIR pointing. Tests in July went very well with the exception of a 30 minute delay on the July 29th run due to equipment difficulties at WA5ZIB. During the past month five stations accurately reported level nine reception. Special serial-numbered endorsement stickers are being prepared in recognition of their achievement. The following stations, in order of submission, have attained "Z9" via Mode "B": W7KIV, N8DUY, SM1MUU, DL5DAA and K9NO. Station profiles of the first five on the ZRO "Honor Role" will be reported in a future issue of ASR.

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SB ALL @ AMSAT \$ANS-217.04

AMSAT SHORT BURSTS

HR AMSAT NEWS SERVICE BULLETIN 217.04 FROM AMSAT HQ

SILVER SPRING, MD AUGUST 5, 1989

TO ALL RADIO AMATEURS BT

AMSAT Short Bursts

AMSAT-NA is soliciting papers for presentation at and/or publication in the proceedings of its 1989 Space Symposium. Areas of interest include research, development, engineering, funding, construction, management and operation of OSCAR (Orbiting Satellite Carrying Amateur Radio) communications and scientific spacecraft and associated communications networks. Submissions or questions should be forwarded to: Ralph Wallio, W0RPK, CITS Chairman-AMSAT'89, 1250 Highway G24, Indianola, IA 50125. Or you can reach Ralph at the following "land-line" numbers: Home: (515) 961-6406 or Office: (515) 224-8034.

On packet-radio you send messages to W0RPK @ W0AK. If you would like to receive an information package about the AMSAT-NA Space Symposium, send a s.a.s.e to Ralph with one unit of postage affixed.

Amateur Satellite Report (ASR) #189 went to the printers last week and will start arriving in mail boxes this week. Because the last ASR received by AMSAT-NA members was in May, this issue of of ASR will be TRIPLE in size. To repeat the schedule for AMSAT-NA publications, the objective is to publish the AMSAT-NA Journal quarterly and the ASR in the intervening months.

Courtney Duncan (N5BF), Manager of the AMSAT Operations Net, has issued the following schedule for the next several weeks for the times and frequencies of the OPS Net. These nets on A0-13 are designed to discuss the many happenings in the world of Amateur Radio Satellites. If you have any comments or suggestions to pass along to N5BF, you can leave them to COURTNEY DUNCAN on the AMSAT-NA BBS at (314) 447-3003.

AMSAT OPERATIONS NET SCHEDULE 1989

Day	Date	Time	Orbit	Frequency	Local evening, U.S.
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Thu	10 Aug	0100	886	435.970	Wednesday
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de DB20S 01May89: *** A0-10 TRANSPONDER SCHEDULE ***
14Jul89 to 01Sep89

Mode-B : from MA 000 to MA 225

O S C A R - 1 3

Date	: 14Jun89 until 16Aug89 ! 16Aug89 until 16Nov89
BLON/BLAT	: 178.8/-2.2 ! 210/0
Mode-B	: MA 000 to MA 110 ! MA 003 to MA 160
Mode-JL	: MA 110 to MA 145 ! MA 160 to MA 200
Mode-B	: MA 145 to MA 255 ! MA 200 to MA 240
OFF	: % ! MA 240 to MA 003
Mode-S	: MA 150 to MA 160 ! MA 210 to MA 222

Transponders will be in operation during the whole orbit from June 14 until August 16 due to excellent sun angles and power budgets. However, no perigee operations will occur between August and November due to perigee solar eclipses! The 70cm and 2M omni-directional antennas will be used from MA 230 until MA 30.

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